



# RESEARCH TO OPERATIONS

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# Overview

- \* R2O Process
- \* Sample Schedule
- \* PI Commitment
- \* Lessons Learned
- \* Available Resources
- \* IOC Operations and Maintenance



# R2O Process

- \* Intent

Provide a Climate Data Record (CDR) to the public that is  
Transparent and Scientifically Defensible

- \* It's all about the:

Data, Source Code, and Documentation

- \* Six Phases:

- |           |            |             |
|-----------|------------|-------------|
| 1) Assess | 2) Prepare | 3) Transfer |
| 4) Verify | 5) Archive | 6) Access   |

# R2O Process - Phases

## 1) Assess

- \* Assemble IPT: PI, PI Assistant, SME, PM, Ops, Archive, Access
- \* Assess current data, documentation, source code; develop transition schedule

## 2) Prepare

- \* PI Updates Source Code (CDRP coding standards, README)
- \* PI Creates Documentation (CATBD, Flow Chart, Maturity Matrix)
- \* PI Preps Data for delivery (netCDF Format, Metadata)

## 3) Transfer

- \* IPT creates submission agreement
- \* PI transfers a copy of the Source Code, Documentation, and Data to NCDC

## 4) Verify

- \* IPT verifies Source Code, Documentation, and Data
- \* Iterative process until code, documentation, and data meet standards

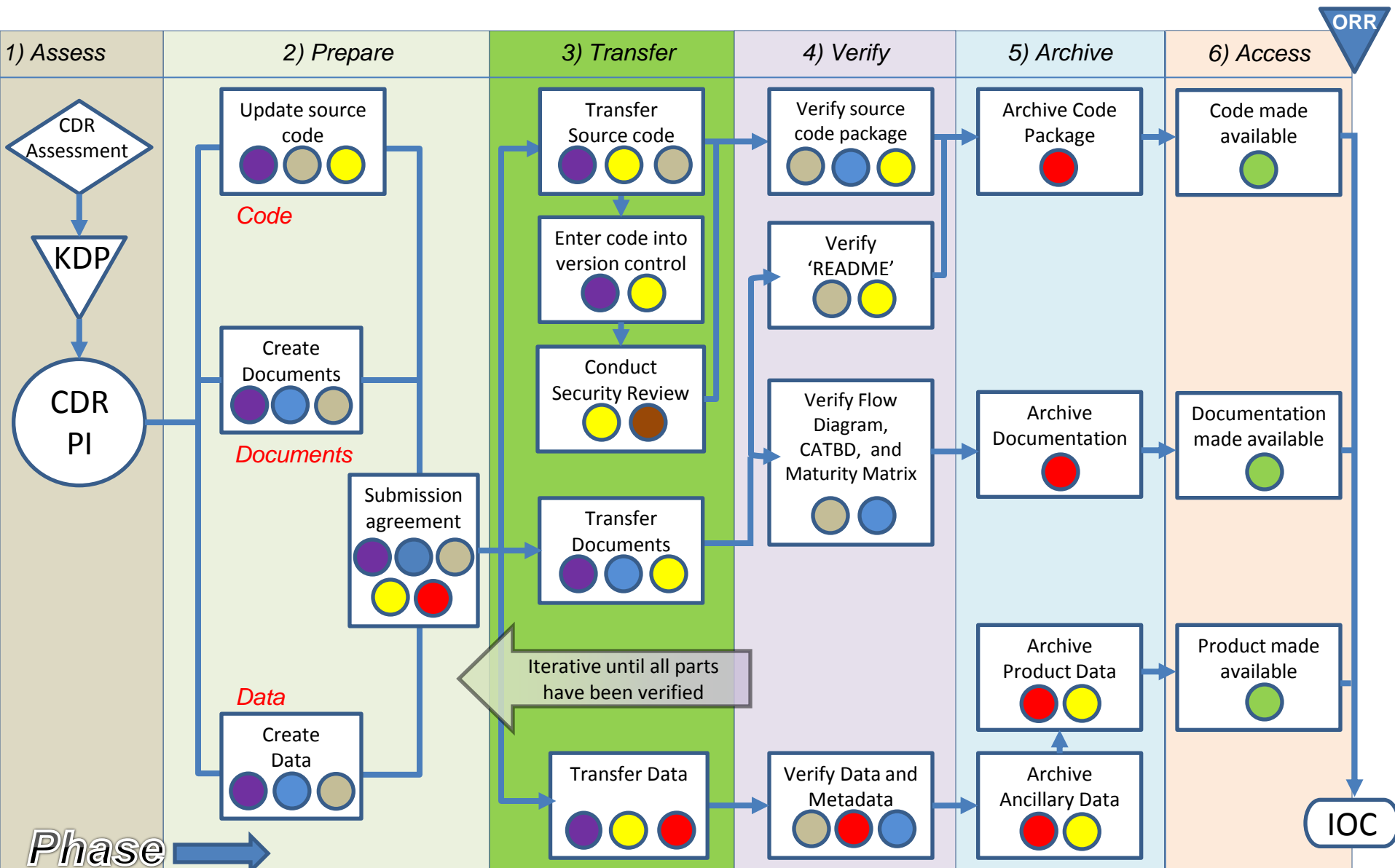
## 5) Archive

- \* NCDC preserves a copy of Source Code, Documentation and Data in the archive

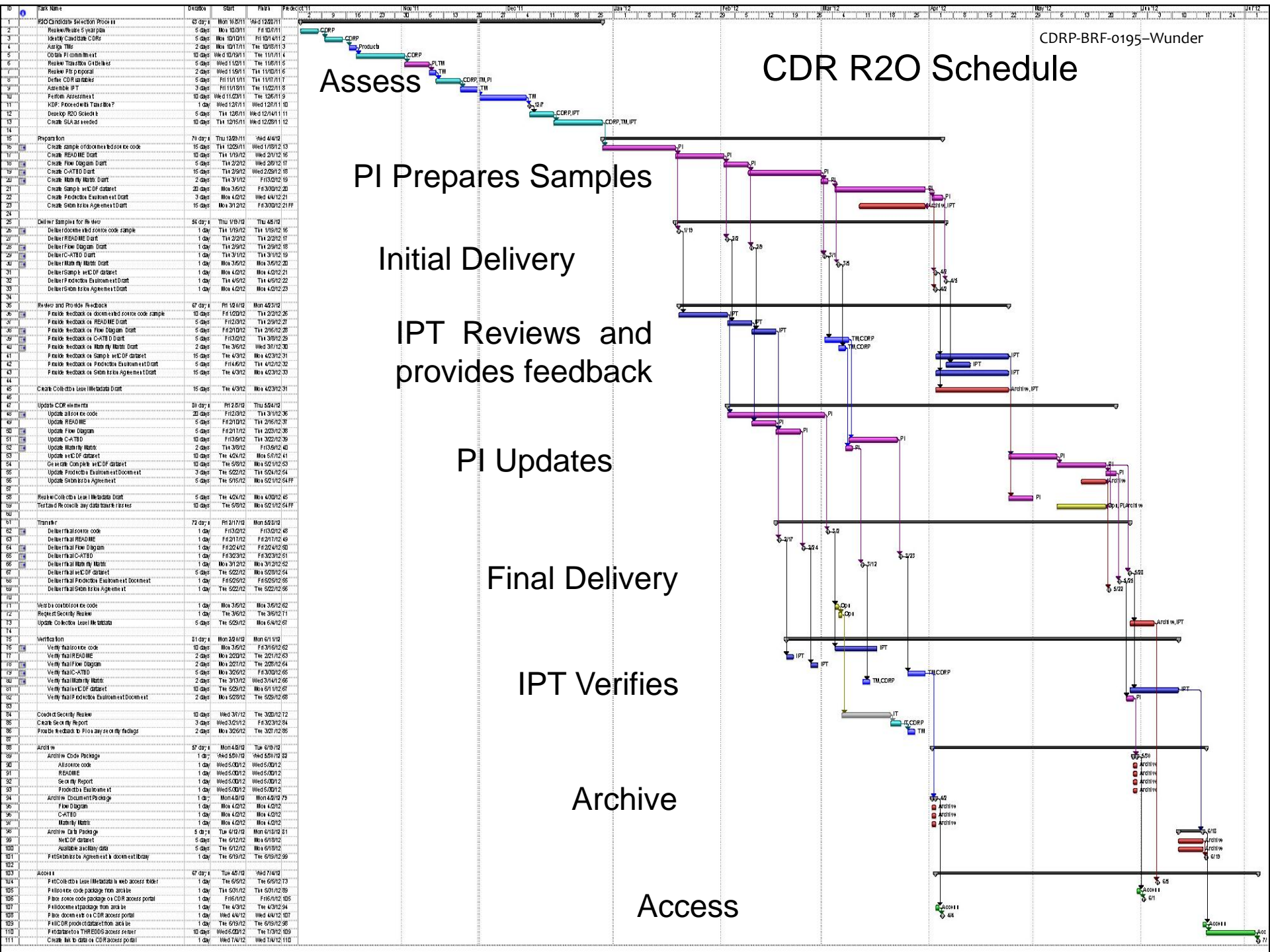
## 6) Access

- \* ORR, then provide public access to everything via the CDR access portal

# CDR R20 Process Diagram







# PI Commitment

- \* Need PI commitment
  - \* Not a task the PI does alone, partnership with the integrated product team (IPT)
  - \* PM coordinates with 5 Branches across 3 Divisions at NCDC to help facilitate the transition process
  - \* NCDC personnel spend 400-600 hours transitioning each CDR to IOC

# Lessons Learned

- \* Start the process early
  - \* Become familiar with the development guidelines on the CDR web page (R2O Guidelines, C-ATBD template, General Programming Standards, NetCDF metadata guidelines)
- \* Communication
  - \* FY13 and FY14 Transition Candidates are available
  - \* Meet with the NCDC IPT members, if you haven't already
  - \* SMEs will work to fully understand the CDR even though they may not be an expert in the field
  - \* IPT members should be familiar with the transition process and able to point out potential roadblocks

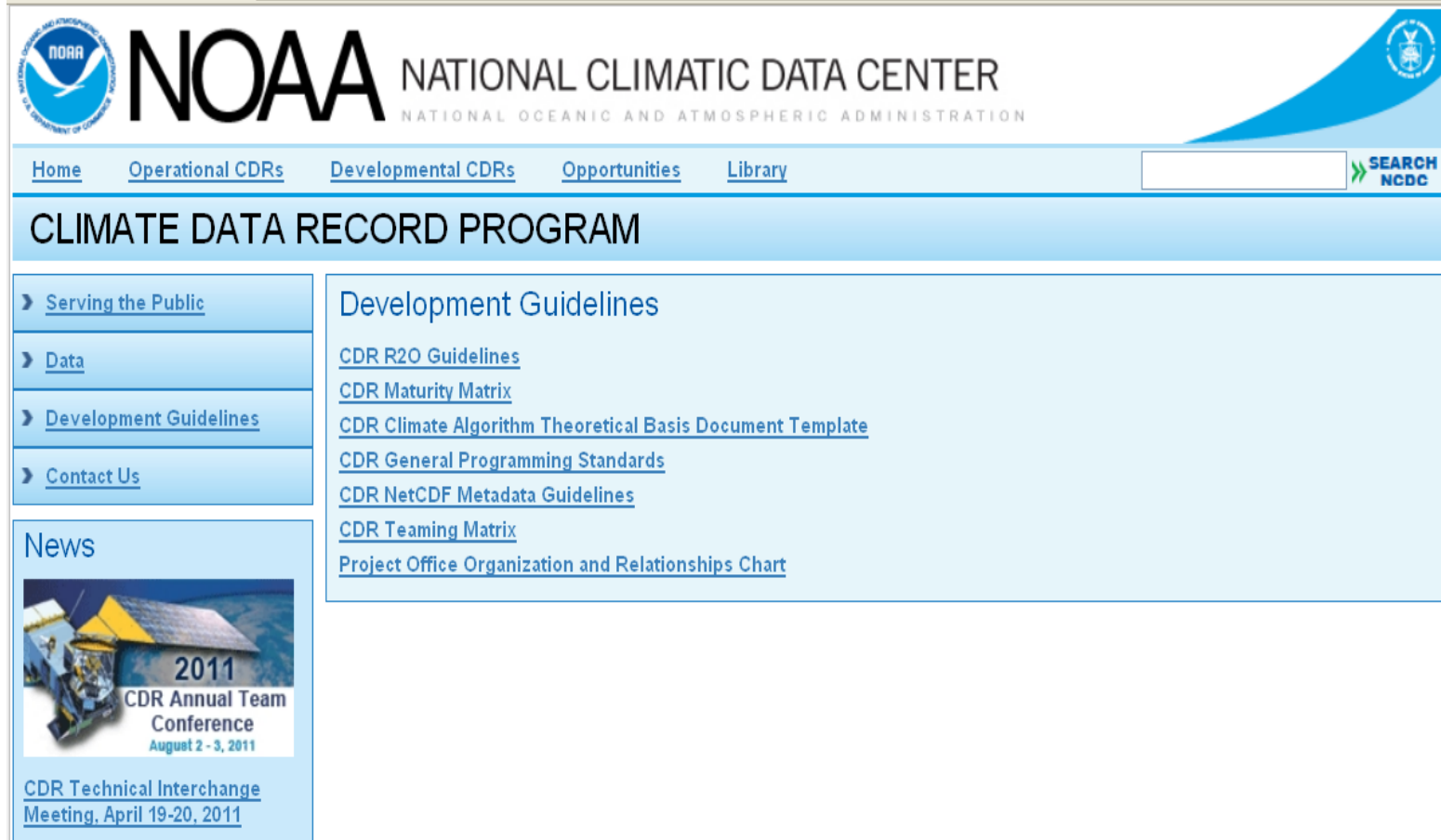


# FY13/FY14 Transition Candidates

FY	PI	SME	CDR
2013	Key	Peng	Cryosphere Bundle
2013	Mittaz	Banzon	AVHRR CH3b-4-5 Radiance FCDR
2013	Vermote	Matthews	Vegetation Bundle
2013	Flynn	Zhao	Ozone Bundle
2013	Pilewskie	Zhao	Solar Irradiance Bundle
2013	Kummerow	Semunegus	Microwave Imager FCDR
2013	Sorooshian	Nelson	PERSIANN – precipitation
2014	Ferraro	Nelson	Hydrological Bundle
2014	Zou	Shi	Atmospheric Temp Bundle (MSU/AMSU/SSU)

# Available Resources

<http://www.ncdc.noaa.gov/cdr/guidelines.html>



The screenshot displays the NOAA National Climatic Data Center (NCDC) website. The header features the NOAA logo and the text "NATIONAL CLIMATIC DATA CENTER" and "NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION". A navigation bar includes links for Home, Operational CDRs, Developmental CDRs, Opportunities, and Library. A search bar with the "SEARCH NCDC" button is also present. The main content area is titled "CLIMATE DATA RECORD PROGRAM". On the left, a sidebar lists links: Serving the Public, Data, Development Guidelines, and Contact Us. Below this is a "News" section featuring a graphic for the "2011 CDR Annual Team Conference" held from August 2-3, 2011, and a link to the "CDR Technical Interchange Meeting, April 19-20, 2011". The main content area on the right is titled "Development Guidelines" and lists several resources: CDR R20 Guidelines, CDR Maturity Matrix, CDR Climate Algorithm Theoretical Basis Document Template, CDR General Programming Standards, CDR NetCDF Metadata Guidelines, CDR Teaming Matrix, and Project Office Organization and Relationships Chart.

**NOAA** NATIONAL CLIMATIC DATA CENTER  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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SEARCH NCDC

## CLIMATE DATA RECORD PROGRAM

- Serving the Public
- Data
- Development Guidelines
- Contact Us

### News

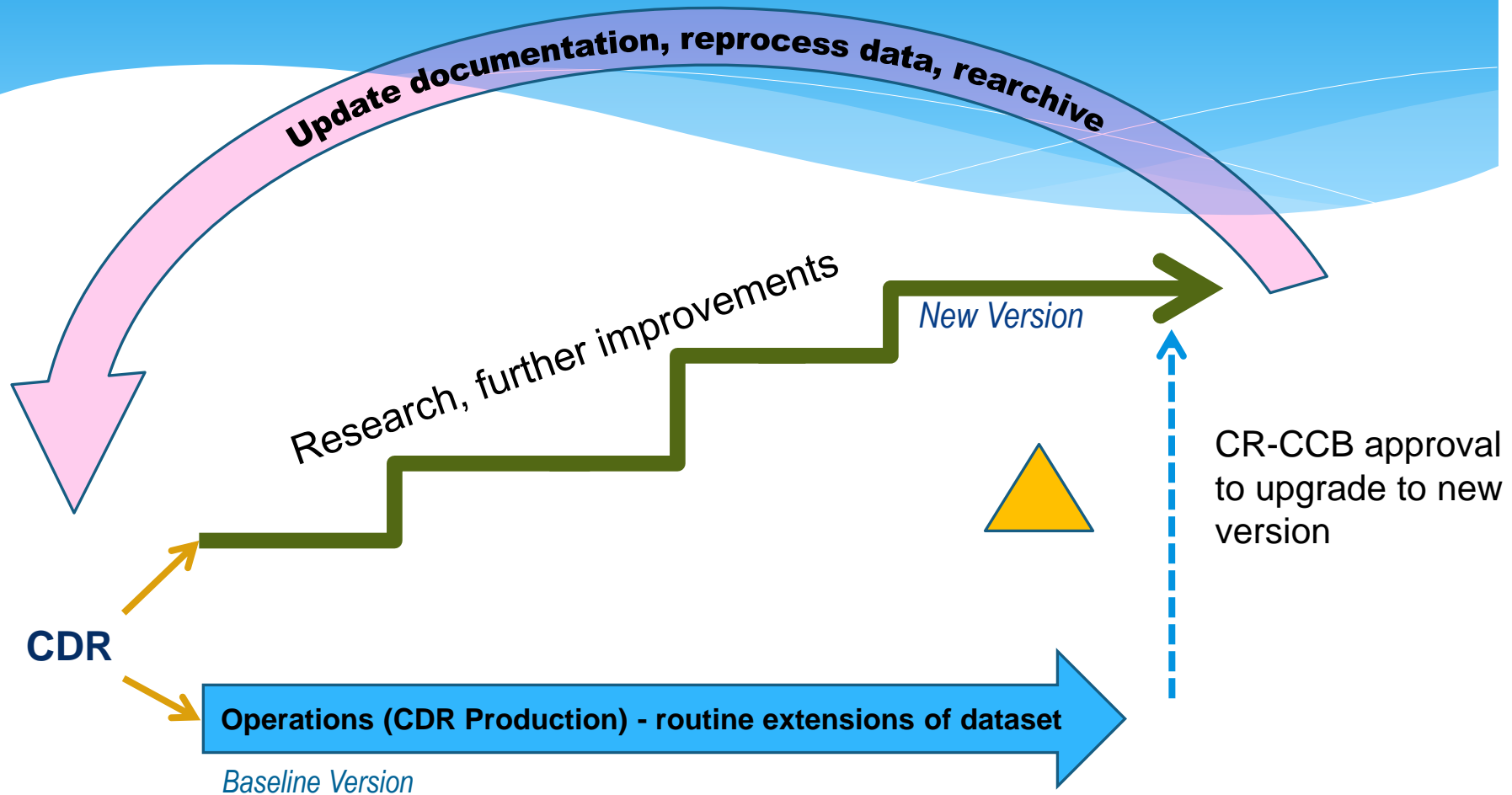
**2011 CDR Annual Team Conference**  
August 2 - 3, 2011

[CDR Technical Interchange Meeting, April 19-20, 2011](#)

### Development Guidelines

- [CDR R20 Guidelines](#)
- [CDR Maturity Matrix](#)
- [CDR Climate Algorithm Theoretical Basis Document Template](#)
- [CDR General Programming Standards](#)
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- [Project Office Organization and Relationships Chart](#)

# Delivery Cycle - IOC



*Configuration control is necessary for scientific defensibility*

# Questions?

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